

What is claimed is:

1. A method of registering two images to be compared,  
comprising the steps of:

5     setting a number of corresponding small regions in the two  
images;

      determining a positional relationship between each pair of  
the corresponding small regions in the two images;

10     determining a relative shift amount for registration for  
each pair of the corresponding small regions on the basis of the  
corresponding positional relationship;

15     binding each and every small region taken as a central region  
with a plurality of small regions surrounding the central region  
by a binding force which depends on the shift amount for the central  
region and the shift amount for each of the surrounding small  
regions;

20     determining a new relative shift amount for each central  
region in accordance with the binding force; and

      relatively shifting the corresponding small regions in  
accordance with the new relative shift amount for each central  
region.

25     2. A method of registering two images as defined in Claim  
1, wherein the corresponding positional relationship between each  
pair of the corresponding small regions is determined by template  
matching between the corresponding small regions.

      3. A method of registering two images as defined in Claim  
1 or 2, wherein the operation for determining the new shift amount

is repeated by substituting the shift amount with the new relative shift amount.

4. A method of registering two images as defined in Claim 1, 2 or 3, wherein the operation for determining the new shift amount by substituting the shift amount with the new relative shift amount is repeated until the sum of the binding forces for the entire central regions drops below a predetermined value.

5. A method of registering two images as defined in one of Claims 1-4, wherein the binding force is an elastic force corresponding to the difference between the shift amount for the central region and the shift amount for each of the surrounding small regions.

6. A method of registering two images as defined in Claim 5, wherein the modulus of elasticity of the elastic force is variable for each of the surrounding small regions.

7. A method of registering two images as defined in one of Claims 1-6, wherein the images are temporally sequential images of the same object taken at different points in time.

8. A method of registering two images as defined in one of Claims 1-7, wherein the images are radiographs for medical purposes.